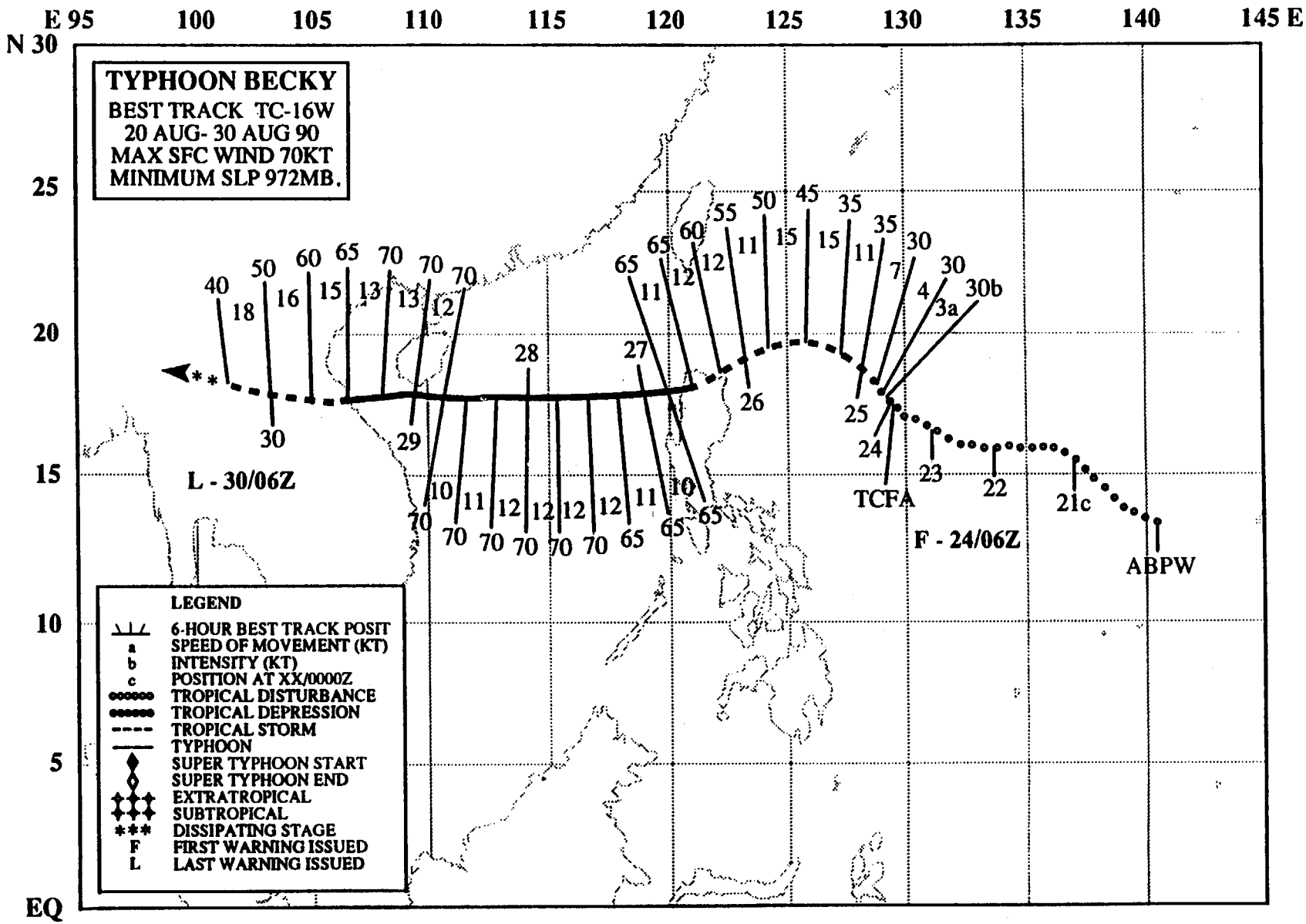
TYPHOON BECKY
BEST TRACK TC-16W
20 AUG- 30 AUG 90
MAX SFC WIND 70KT
MINIMUM SLP 972MB.
E 95
100
105
110
115
120
125
130
135
140
145 E
N 30
25
20
15
10
5
EQ
L - 30/06Z
TCFA
F - 24/06Z
ABPW
LEGEND
6-HOUR BEST TRACK POSIT
SPEED OF MOVEMENT (KT)
INTENSITY (KT)
POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED

TYPHOON BECKY (16W)

I. HIGHLIGHTS

Becky, a midget typhoon and the eleventh typhoon of 1990, generated in the monsoon trough and tracked south of the subtropical ridge throughout its existence. After initially moving west-northwestward, the storm took a southwestward track across the northwestern tip of Luzon before heading westward across the South China Sea. Becky hit northern Luzon with typhoon-force winds and later slammed into northern Vietnam as a severe tropical storm.

II. CHRONOLOGY OF EVENTS

200600Z - First mentioned on Significant Tropical Weather Advisory as an area of persistent convection with a minimum sea-level pressure of 1007 mb.

232200Z - Tropical Cyclone Formation Alert based on increased convective organization, a steady drop in sea-level pressure, and a corresponding increase in surface winds.

240600Z - First warning based on appearance of a well-developed low-level circulation center on the edge of the deep convection.

250000Z - Upgrade to tropical storm based on tighter spiral band curvature and first intensity estimate of CI 2.5.

261200Z - Upgraded to typhoon after appearance of a 10 nm (19 km) diameter eye and the first CI 4.0 satellite signature.

271200Z - Peak intensity - 70 kt (36 m/sec) - accompanied the reappearance of a small 8 nm (15 km) diameter ragged eye.

291800Z - Downgraded to tropical storm intensity after the central dense overcast degenerated into a poorly defined spiral cloud band.

300600Z - Final warning - dissipated over land.

III. TRACK AND MOTION

After forming 275 nm (510 km) west of Guam, Becky tracked slowly west-northwestward under the influence of the subtropical ridge (Figure 3-16-1) that was building westward across the wake of Typhoon Zola (14W) which was moving through the Sea of Japan. While Becky approached northern

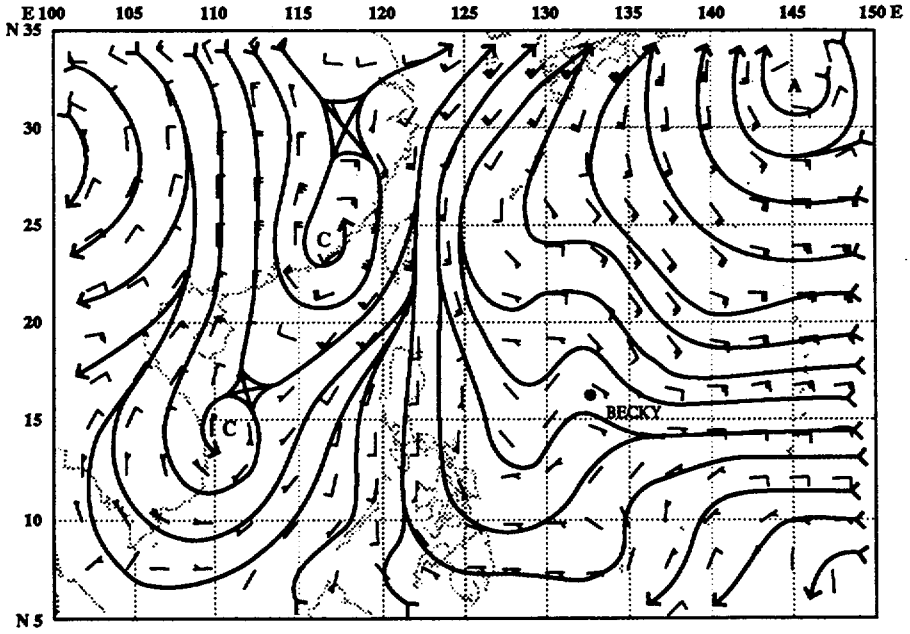

Figure 3-16-1. Deep layer mean circulation analysis from 221200Z August shows ridging north of Becky and troughing over the east coast of China.

Luzon, the trough shown over eastern China in Figure 3-16-1 moved eastward and filled (Figure 3-16-2). Subsequently, Becky accelerated as the steering flow strengthened and tracked to the west-southwest for the next day-and-a-half. With the high established to the north, the typhoon tracked due west and made landfall in northern Vietnam.

IV. INTENSITY

The disturbance that developed into Typhoon Becky originated in the low-level monsoon trough and the cloudiness left behind after Typhoon Zola (14W) separated from the trough. Strong northerly upper-level outflow from Zola slowed early development of Becky. Reestablishment of the TUTT to the north of the tropical cyclone effectively reduced the vertical shear and allowed the tropical cyclone to reach tropical storm intensity on 25 August. Becky attained minimal typhoon intensity and exhibited a 10 nm (19 km) diameter eye just as it crossed the northwestern tip of Luzon (Figure 3-16-3). After entering the South China Sea, Becky (Figure 3-16-4) maintained minimum typhoon intensity until it made landfall in northern Vietnam and rapidly dissipated.

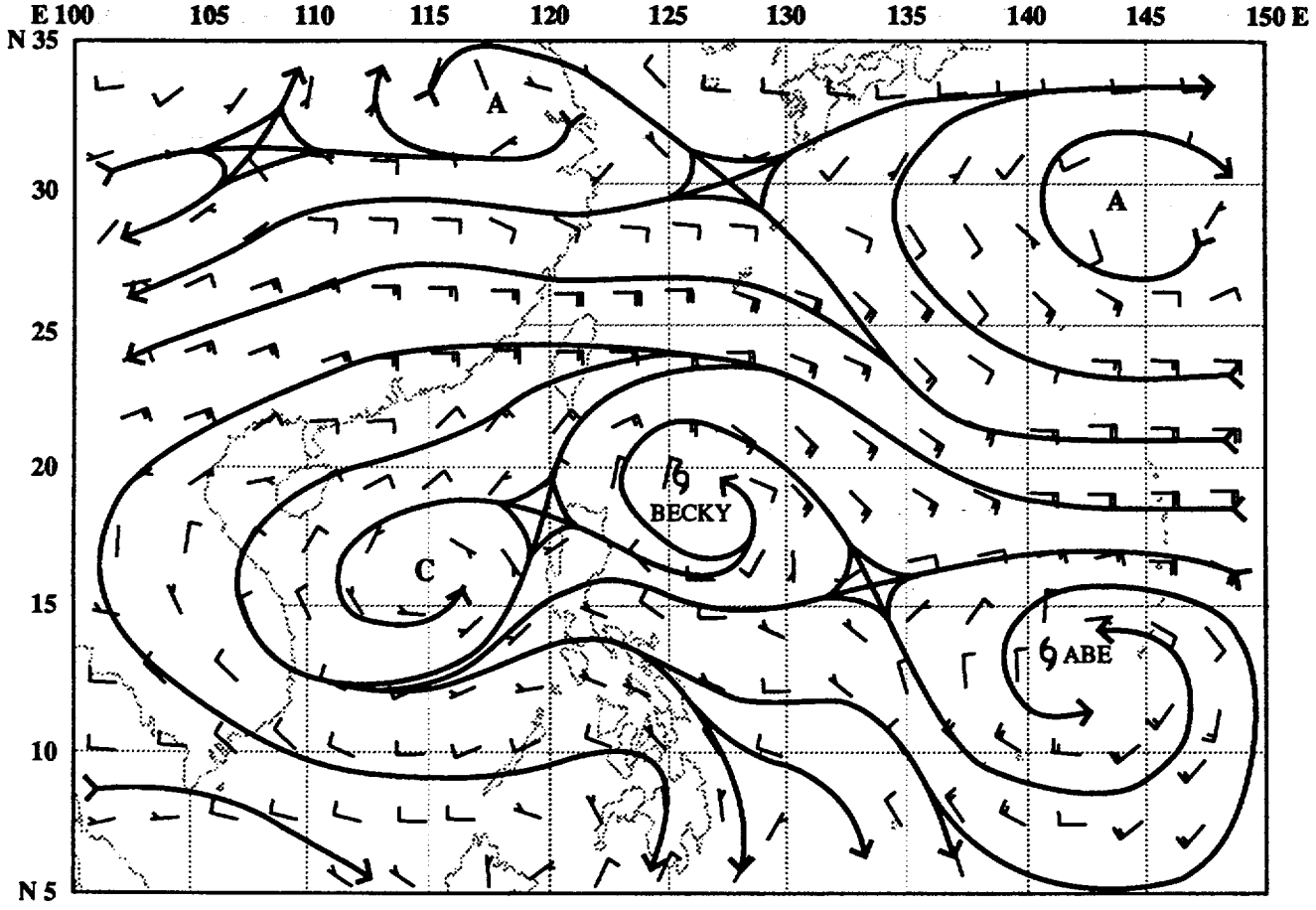

Figure 3-16-2. Deep layer mean circulation analysis for 251200Z August shows ridging over northeast China.

Figure 3-16-3. Becky reaches minimum typhoon intensity just as it hits northern Luzon (260039Z August DMSP visual imagery).

V. FORECASTING PERFORMANCE

Except for the first two warnings, JTWC correctly anticipated that Becky would turn and accelerate onto a more west-northwestward heading as it passed northern Luzon in response to the building ridge over eastern Asia (Figure 3-16-5). However, the strength of the ridge development was underestimated, resulting in a delay in forecasting the west-southwest portion of Becky's track.

VI. IMPACT

Becky crossed northern Luzon as it reached typhoon intensity, killing 32 people and forcing the evacuation of thousands due to heavy flooding. News reports from Vietnam stated that the northern province of Nghe Tinh experienced winds greater than 60 kt (30 m/sec) which severely damaged 400,000 acres of rice paddy and many homes. Three boats with a total of 20 fishermen aboard were reported missing.

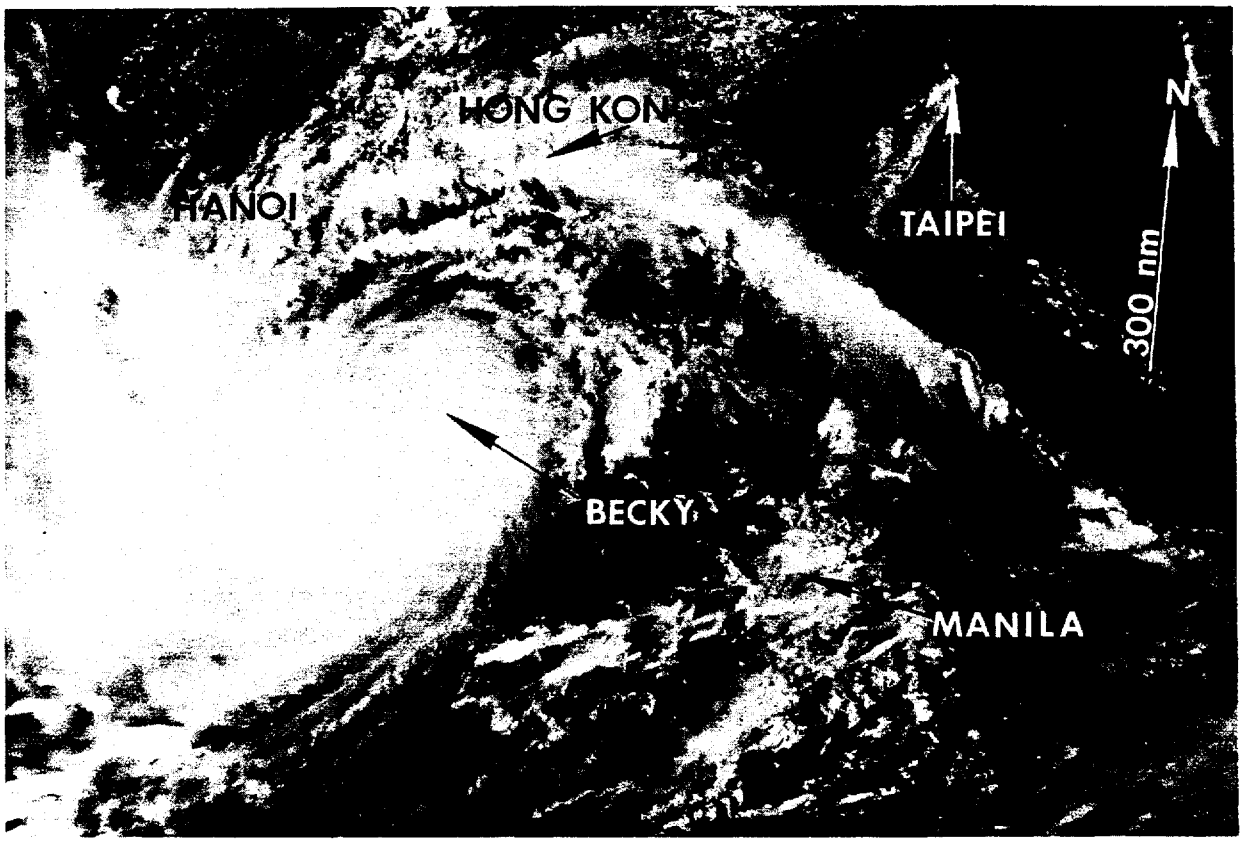

Figure 3-16-4. Becky at peak intensity of 70 kt (36 m/sec) before making landfall in northern Vietnam (280600Z August NOAA visual imagery).

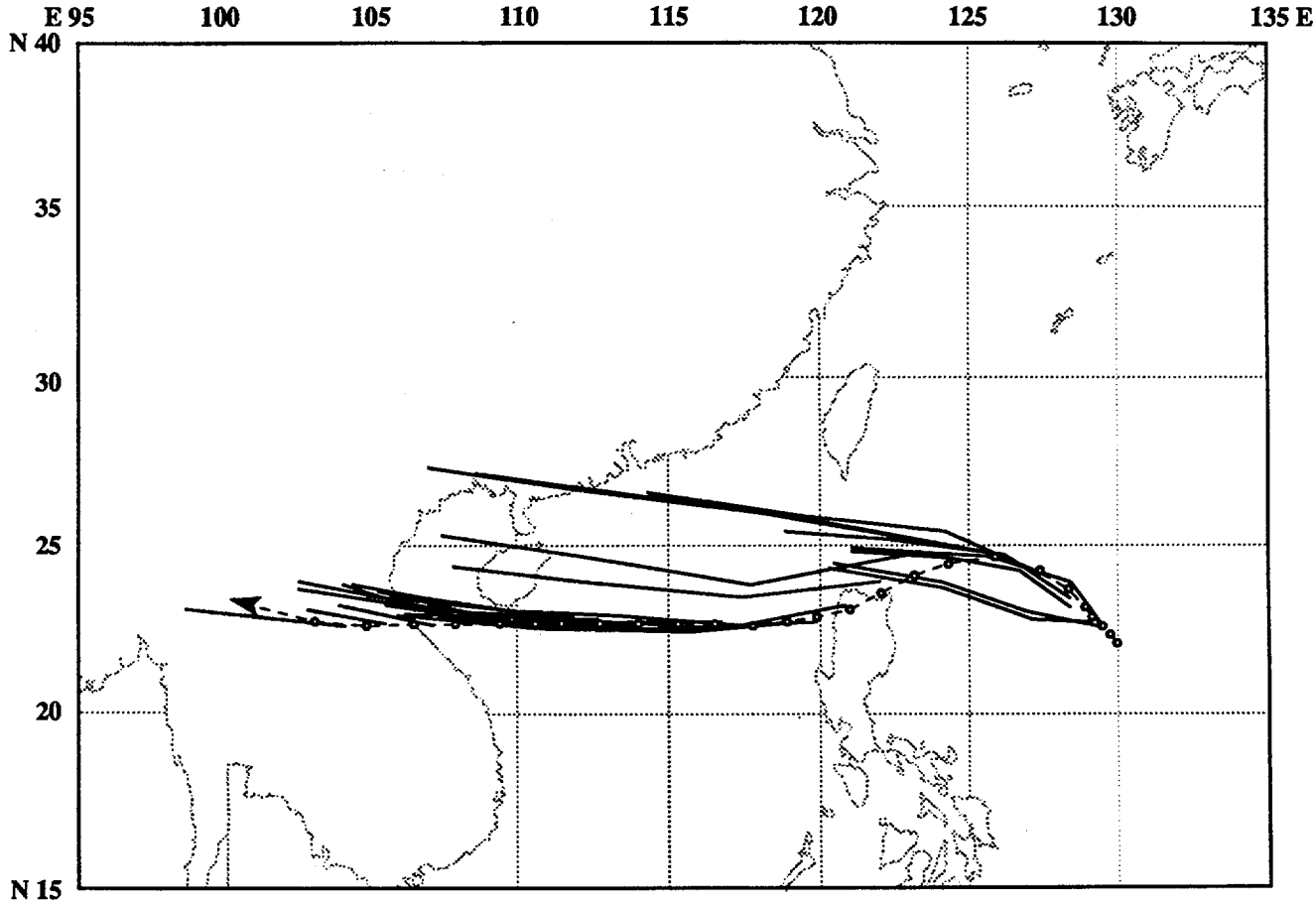

Figure 3-16-5. Summary of JTWC forecasts (solid lines) for Becky superimposed on the final best track (dashed line).